

CLAIMS

The following is a copy of Applicant's claims that identifies language being added with underlining ("____") and language being deleted with strikethrough ("—"), as is applicable:

1. (Currently Amended) A method of producing a three-dimensional object, comprising the steps of:

(a) providing criteria about the three-dimensional object, the three-dimensional object is divided into complete layers and partial layers, the criteria indicate that after a specified number of complete layers are formed a partial layer is formed, the partial layer includes a shell layer and does not include an interior layer, and the complete layer includes the shell layer and the interior layer, wherein the shell layer forms only an exterior layer of the three-dimensional object and the interior layer forms only a layer within the three-dimensional object;

(b) forming a base layer, the base layer includes a shell layer and does not include an interior layer;

(c) planing the base layer;

(d) forming a complete layer according to the criteria;

(e) planing the complete layer;

(f) forming a partial layer according to the criteria;

(g) planing the partial layer; and

(h) repeating steps (d) through (g) until the three dimensional object is formed, wherein the interior layer forms a solid layer within the shell layer.

2. (Original) The method of claim 1, further comprising:

monitoring waste produced for each planing; and

modifying the criteria if the waste produced is above a waste threshold.

3. (Original) The method of claim 1, further comprising:
determining a height of the shell layers and a height of the interior layers; and
modifying the criteria if the height of the interior layers is greater than or equal to the height of the shell layers, wherein the criteria would indicate to form the partial layer as the next layer formed.
4. (Original) The method of claim 1, wherein the specified number of complete layers formed before the partial layer is formed is based on a calibration criteria that includes an average height of the interior layer before planing and an average height of the shell layer after planing, and the specified number can be determined based on the relationship between the average height of the interior layer before planing and the average height of the shell layer after planing.
5. (Currently Amended) A method of producing a three-dimensional object, comprising the steps of:
providing criteria about the three-dimensional object, the three-dimensional object is divided into layers, the layers include a shell layer and an interior layer, the shell layer forms only an exterior layer of the three-dimensional object and the interior layer forms only a layer within the three-dimensional object, the shell layer includes at least one shell voxel, the interior layer includes at least one interior voxel, the criteria indicate selected interior voxels of the at least one interior voxels to form for each layer, the criteria indicate a sequence in which to form each layer, and the selected interior voxels for each layer in the sequence include a different combination of interior voxels;
forming a plurality of layers according to the criteria;
planing at least one layer, wherein the interior layer forms a solid layer within the shell layer; and
forming the three-dimensional object.
6. (Original) The method of claim 5, wherein the selected interior voxels of each layer include less than 100% of the interior voxels of each layer.

7. (Currently Amended) A method of producing a three-dimensional object, comprising the steps of:

providing a criteria for forming the three-dimensional object, the three-dimensional object includes a plurality of layers, each layer includes layers selected from a shell layer and an interior layer, the shell layer forms only an exterior layer of the three-dimensional object and the interior layer forms only a layer within the three-dimensional object, the shell layer includes at least one shell voxel, and the interior layer includes at least one interior voxel;

forming and planing the layers in an iterative manner using the criteria provided, wherein the interior layer forms a solid layer within the shell layer;

monitoring waste produced for each planing;

modifying the criteria if the waste produced is above a waste threshold;

controlling an amount of waste produced by using the criteria provided; and

forming the three-dimensional object.

8. (Original) The method of claim 7, wherein forming and planing include:

(a) forming a base layer, the base layer includes a shell layer and does not include an interior layer;

(b) planing the base layer;

(c) forming a complete layer according to the criteria, the complete layer includes the shell layer and the interior layer;

(d) planing the complete layer;

(e) forming a partial layer according to the criteria, the partial layer includes a shell layer and does not include an interior layer;

(f) planing the partial layer; and

(g) repeating steps (d) through (g) until the three dimensional object is formed.

9. (Original) The method of claim 7, wherein the criteria indicate selected interior voxels of the at least one interior voxels to form for each layer, the criteria indicate a sequence in which to form each layer, and the selected interior voxels for each layer in the sequence include a different combination of interior voxels.

10-16. (Canceled)

17. (Previously Presented) The method of claim 5, further comprising:
monitoring waste produced for each planing; and
modifying the criteria if the waste produced is above a waste threshold.